

Patent Claims

1. Relative pressure sensor for measuring a pressure difference between a process pressure and an ambient pressure, comprising

a measuring unit (1) having:

a first chamber (5), which is sealed by a first separating membrane (2) and filled with a transmission medium, wherein the first separating membrane (2) is loadable with the process pressure;

a second chamber (6), which is sealed by a second separating membrane (3) and filled with a transmission medium, wherein the second separating membrane (3) is loadable with the ambient pressure;

a pressure-sensitive element (4), which separates the first chamber (5) from the second chamber (6); and

a damper (7) for damping excess-pressure pulses; characterized in that

the damper (7) is arranged between the pressure-sensitive element (4) and the second separating membrane (3).

2. Relative pressure sensor as claimed in claim 1, wherein the transmission medium is a hydraulic liquid, especially a silicone oil.
3. Relative pressure sensor as claimed in claim 1 or 2, wherein the pressure-sensitive element comprises a measuring membrane, especially a piezoresistive silicon chip with a measuring membrane.

4. Relative pressure sensor as claimed in one of the preceding claims, wherein the damper (7) comprises a sintered body.
5. Relative pressure sensor as claimed in claim 4, wherein the sintered body is a metallic or ceramic, sintered body.
6. Relative pressure sensor as claimed in one of the preceding claims, wherein the damper has a porous structure.
7. Relative pressure sensor as claimed in claim 6, wherein the porous structure has a flow-effective pore diameter of not less than 4 μm and not more than 28 μm , preferably between 8 μm and 16 μm .
8. Relative pressure sensor as claimed in claim 6 or 7, wherein the porous structure has a porosity between 15 vol.% and 50 vol.%, preferably between 25 vol.% and 35 vol.%.
9. Relative pressure sensor as claimed in one of the claims 4 to 8, wherein the sintered body has an essentially cylindrical form and the length of the sintered body in the axial direction is at least twice as large as the diameter.